

Work Order ID 138600

Wed, November 04, 2015 10:17:09 A

138600

Page 1

Item ID: D4821-1

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Windshield Deflector

Start Date: 11/4/2015 Start Qty: 12.00 *12*

Cust Item ID:

Required Date: 11/11/2015 Req'd Qty: 12.00 *12*

Customer:

Reference: TO BE IDENTIFIED UNDER NEW BATCH NUMBER

Approvals: Process Plan: 11 Date: 11-11-04 Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D4821	B

135 0.00

135

QC

Quality Control

Memo

PULL FROM STOCK

D4821-1 X12

B:137832 X6

B:137359 X6

RE-IDENTIFIED UNDER NEW BACTH NUMBER

140 Outsource process-Anodize per QSI017 4.1.10.1 0.00

140

Outsource4

Outsource process - Anodize

Memo

Issue P/O: 30385

Black Anodize as per Dwg D4821

PRIME AS PER DWG AS PER NOTE 2

12 11-04-15

CY NOV 06 2015 12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

Work Order ID 138600***138600***

Page 2

Wednesday, November 04, 2015 10:17:09 A

Item ID: D4821-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Windshield Deflector

Start Date: 11/4/2015 Start Qty: 12.00 ***12***

Cust Item ID:

Required Date: 11/11/2015 Req'd Qty: 12.00 ***12***

Customer:

Reference: TO BE IDENTIFIED UNDER NEW BATCH NUMBER

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Receive & Inspect for Damage & Mat'l Certs	0.00							
150									
Packaging	Memo	0.00							
Packaging									
152	QC14- Inspect Spray Paint	0.00							
152									
QC	Memo	0.00							
Quality Control									
155	QC5- Inspect part completeness to step on W/O	0.00							
155									
QC	Memo	0.00							
Quality Control									

12x SP15-11-11

(12) DAS 38 9-89 NOV 11 2015

(12) DAS 38 9-89 NOV 11 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____					

Work Order ID 138600***138600***

Page 3

Wednesday, November 04, 2015 10:17:09 A

Item ID: D4821-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Windshield Deflector

Start Date: 11/4/2015 Start Qty: 12.00

12

Cust Item ID:

Required Date: 11/11/2015 Req'd Qty: 12.00

12

Customer:

Reference: TO BE IDENTIFIED UNDER NEW BATCH NUMBER

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	Identify as per dwg & Stock Location. <u>CCK 024</u>	0.00				<u>12</u>	<u>DAS</u> <u>8</u> <u>9-89</u>		<u>NOV 12 2015</u>
180									
Packaging	Memo	0.00							
Packaging									
190	QC21- Final Inspection - Work Order Release	0.00							
190						<u>MCS</u>			<u>NOV 12 2015</u>
QC	Memo	0.00							
Quality Control									

MCS NOV 12 2015

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Picklist Print

Page 1

Wednesday, November 04, 2015 10:17:19 AM

Work Order ID: 138600

138600

Parent Item: D4821-1

D4821-1

Parent Item Name: Windshield Deflector

Start Date: 11/4/2015

Required Date: 11/11/2015

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP REV: A NEW ISSUE 13/04/25 JFS VERIFY BY: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4821-1		Manufactured	No				Each	0.0000		12			
D4821-1									**	12			
Windshield Deflector													

12x SP/5-11-11

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Cross tube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																		
Description Work Order Deviation				Disposition																					

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____					
Misidentified ☐	Past Due ☐						

Work Order ID 137359

137359

September 25, 2015 8:53:36 AM

Page 1

Item ID: D4821-1 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Windshield Deflector
 Start Date: 9/25/2015 Start Qty: 6.00 *6* Cust Item ID:
 Required Date: 10/22/2015 Req'd Qty: 6.00 *6* Customer:
 Reference:

Approvals: Process Plan: SH Date: 0150925 Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4821	B								

100 Cut blanks as per folio 0.00

100

Bandsaw Memo 0.00
 Jeaspa Bandsaw CUT BLANK AT 51.000"

DAS
14
9-89

1510/08

110 0.00

110

Outsource5 HAAS CNC VERTICAL MACHINING #1 0.00
 Outsource process - Machining Memo
 ISSUE P/O: 30111
 TO WEEJAY
 C OF C IS REQUIRED

CZ OCT 14 2015

6

2- deburr and break all sharp edges

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date ☐	☐	Manufacturing Process	☐	OTHER : _____			
Misidentified ☐	☐	Past Due	☐				

Work Order ID 137359

137359

Page 2

September 25, 2015 8:53:36 AM

Item ID: D4821-1 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Windshield Deflector
 Start Date: 9/25/2015 Start Qty: 6.00 *6* Cust Item ID:
 Required Date: 10/22/2015 Req'd Qty: 6.00 *6* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	Receive & Inspect for Damage & Mat'l Certs	0.00							
120									
Packaging	Memo	0.00							
Packaging									
130	QC5- Inspect part completeness to step on W/O	0.00							
130									
QC	Memo	0.00							
Quality Control									
131		0.00							
131									
HandFinish	Memo	0.00							
Hand Finishing	CLEAN AND REMOVE ALL PART MARKING								

6x SP/5-11-03

DAS 38 9-88
 NOV 03 2015

DAS 38 9-88
 10/1/15

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

SEE W/O 138600

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : _____							

Work Order ID 137359***137359***

Page 4

Item ID: D4821-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Windshield Deflector

Stop

NS2

Start Date: 9/25/2015 Start Qty: 6.00

6

Cust Item ID:

Required Date: 10/22/2015 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

155

QC5- Inspect part completeness to step on W/O

0.00

155

QC

Memo

0.00

Quality Control

180

Identify as per dwg & Stock Location: 00K024 0.00***180***

Packaging

Memo

0.00

Packaging

6 H 15-11-04

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.00

Quality Control

H 15-11-04

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐		No Re-verification ☐		Pressure/Forced ☐		Temperature/Cure ☐	
Design ☐		Operator ☐		Bending ☐		Set-up ☐	
Doc/Data ☐		Offset/Setup ☐		Centre Not Concentric ☐		BOM/Route ☐	
Equip/Tooling ☐		Supplier ☐		Cracks ☐		Broken/Damage/Defect ☐	
Handling/Pre ☐		Training ☐		Crimp/Kink/Ripple/Wave ☐		Inspection Incomplete/Unqualified ☐	
Material ☐		Use for Testing ☐		Cuffs ☐		Contamination ☐	
Internal Transport ☐		Poor Information ☐		Crushing ☐		Countersink ☐	
Tribal Knowledge ☐		Rushing ☐		Heat Treat ☐		Cut Too Short ☐	
LOA ☐		Product Improvement ☐		Wave/Twist in Tube ☐		Instructions Incomplete/Unclear ☐	
Substation ☐		Process Improvement ☐		Marks/Chatter ☐		Drill Holes ☐	
Past Expiry Date ☐		Manufacturing Process ☐		OTHER : ☐			
Misidentified ☐		Past Due ☐					

Picklist Print

September 25, 2015 8:53:50 AM

Page 1

Work Order ID: 137359

137359

Parent Item: D4821-1

D4821-1

Parent Item Name: Windshield Deflector

Start Date: 9/25/2015

Required Date: 10/22/2015

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV: A NEW ISSUE 13/04/25 JFS VERIFY BY: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4821-1P		Purchased	No				Each	0.0000		6			
D4821-1P									**				
Windshield Deflector													
M7075T6B3.500X02.00		Purchased	No			100	f	20.2580	4.25	26.84211			
0													

M7075T6B3 500X02 000

7075-T6 BAR 3.500' X 2.000"

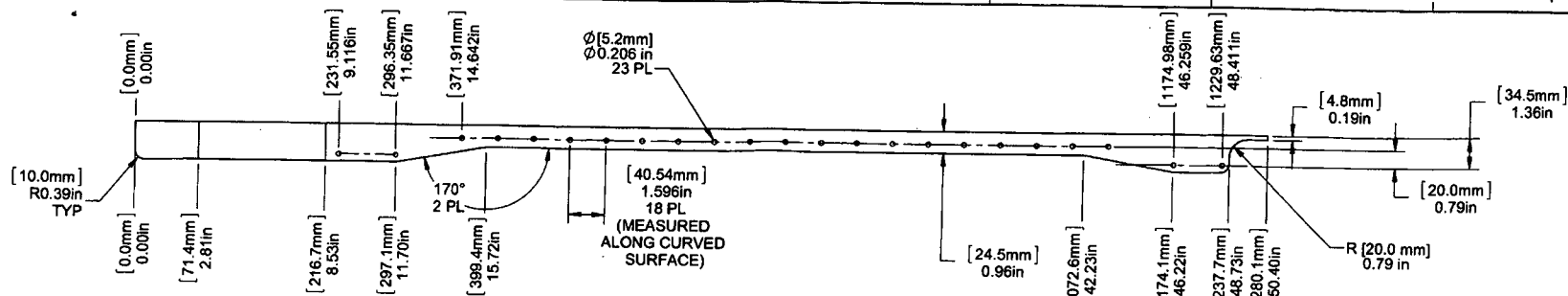
Location	Loc Qty	Loc Code
MAT006	20.258	
M123555	3.9	
M125623	0.941	
- M127736	15.417	

M133296 X 17

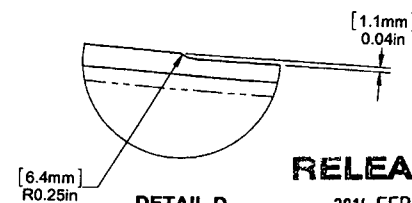
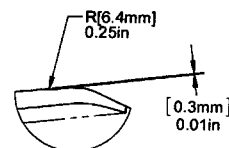
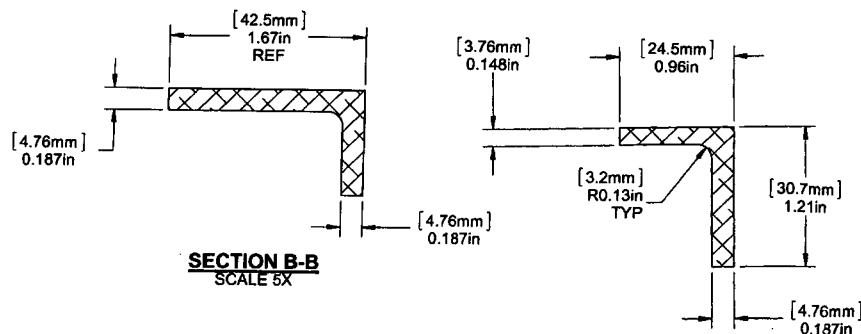
6x SP15-11-03

amf
15/10/08

8.5



D4821-1 WINDSHIELD DEFLECTOR



RELEASED

2014 FEB 25

B/W 14-510

20150925

137359

- NOTES:**
- 1) MATERIAL: 7075-T6 (OR T651/T6510/T6511/T62) ALUMINUM BAR
PER AMS-QQ-A-225/9 (OR AMS 4122/4123/4186/4187) OR
PER AMS-QQ-A-200/11 (REF DART SPEC. M7075T6B)
 - 2) FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK,
PRIME IAW MIL-P-23377J TYPE I CLASS N; 1-2 MIL MAX, AS PER QSI 005.
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4821-1", AGUSTA WESTLAND P/N "TBD", REVISION, BATCH NUMBER AND DATE OF MANUFACTURE,
USING AN X-TENSION STAMP, PER QSI 044 METHOD 6.2
 - 7) WEIGHT: 1.93 lbs (0.88 kgs)
 - 8) PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: D4821-1-b.IGES (or D4821-1-b.STEP)

APPROVED

B	DRAWING REVISED TO NEW CUSTOMER CAD DATA, RIVET HOLES ADDED		DB	14.02.04		
A	NEW RELEASE		DB	13.05.22		
REV.	DESCRIPTION		BY	DATE		
DESIGN	DB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	REV. B	SHEET 1 OF 1		
DRAWN	DB					
CHECKED	AP				DRAWING NO. D4821	SCALE NTS
MFG. APPR.	EPDMA					
APPROVED	HS					
DE APPR.	DS	WINDSHIELD DEFLECTOR				
DATE	14.02.04		COPYRIGHT © 2013 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

**Purchase Order ID PO30111****Purchase Order Date** 10/14/2015**PO Print Date 10/14/2015**

Page Number 1 of 2

Order From :

VC-WMP001

Ship To : DART AEROSPACE LTD

WEJAY MACHINE PRODUCTS CO. LTD
600 O'CONNOR DRIVE
KINGSTON, ONTARIO K7P 1N3
CANADA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Buyer

Chantal Lavoie

Vendor Phone 613-384-1662

Customer POID

Ship To Contact

Customer Tax # 10127-2607

Ship To Phone

Terms

Net 30

Ship Via: Journey Freight collect

Currency

CAD

Ship Acct:

FOB

Destination-Collect

PO Instructions: QUOTATION NO. WJ-8644

Note:

10/14/2015



Packing Slip 37606

600 O'CONNOR DRIVE, KINGSTON, ONTARIO K7P 1N
TEL: 613-384-1662 FAX: 613-384-299
www.wejay.com

SOLD TO: [illegible]

SHIP TO: [illegible]

INVOICE DATE		YOUR ORDER NO. 90111		DATE ORDERED 15/11/15		SHIPPED VIA BEST WAY		
CUSTOMER CODE			PROV. LIC. NO.		Extra ☐ Exempt ☐		TERMS	
QUANTITY ORDERED	B.O.	QUANTITY SHIPPED	DESCRIPTION				UNIT PRICE	AMOUNT
0		6	Manufactured according to per drawing 04011, part B Part: 01071-10 Part: 01073-09 SP 15-11-03 Material: 7075-T6 bar 3.5" x 2" MP33030					
0		6	Manufactured according to per drawing 04011, part B Part: 01071-10 Part: 01073-09 Material: 7075-T6 bar 3.5" x 2" MP33030					
RELEASE NOTE I certify that the items listed hereon have been inspected and tested and conform to all specifications and requirements in the contract or purchase order. Inspection Supervisor <u>[Signature]</u> WMP 03 Nov. 2/15								
							G.S.T.	
							P.S.T.	

ORDER: COMPLETE ☐ PARTIAL ☐

TOTAL

RECEIVED BY _____
1.5% PER MONTH (18% PER ANNUM)
CHARGED ON OVERDUE ACCOUNTS

NO GOODS RETURNED WITH
PRIOR AUTHORIZATION



600 O'CONNOR DRIVE, KINGSTON, ONTARIO K7P 1N3

PHONE: (613) 384-1662

FAX: (613) 384-2997

CERTIFICATE OF COMPLIANCE

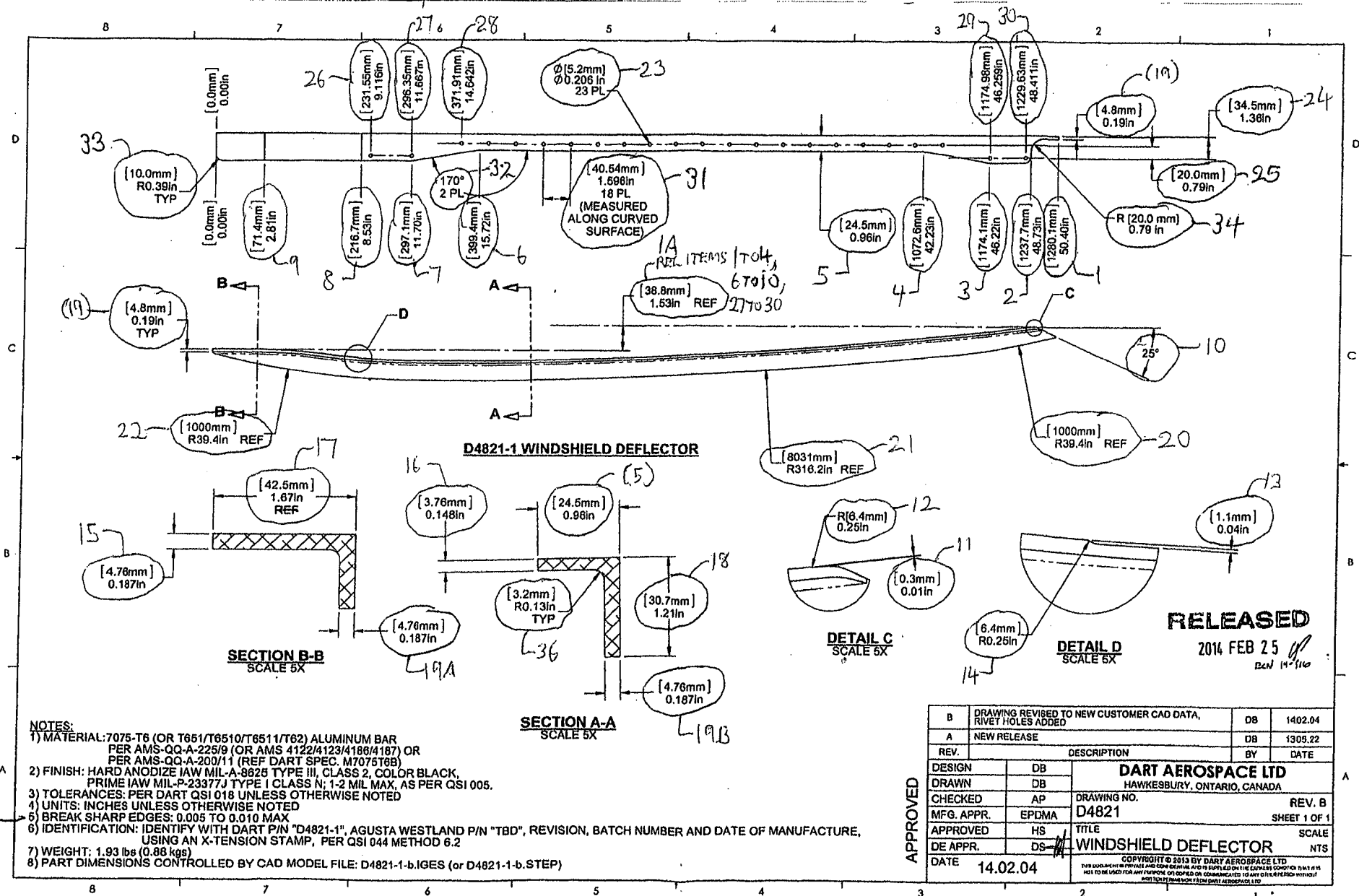
CUSTOMER: Dart Aerospace		DATE: Nov. 2, 2015	
		P.O.# PO30111	
		WEJAY JOB# 37606	
I hereby certify that the following material has been inspected/tested and conforms to the requirements and specifications as stated in your contract and as noted below.			
PART NO.	QTY.	PROCESS (ES)	SPECIFICATION / REV
D4821-1P 'Windshield Deflector' Tag: B137359	6	Machined complete per drawing req'ts.	D-4821 / rev. B SAS-11-03
D4821-1P 'Windshield Deflector' Tag: B137832	6	Machined complete per drawing req'ts.	D-4821 / rev. B
Note: 1) Material: 7075-T6 Aluminum bar supplied by DART - ref. tag: M133296 2) 1st article Inspection reports attached			

Records of Inspection/Test will be retained for 5 years minimum.

Yours truly,

Clifford Smith
Authorized Q.A. Signatory

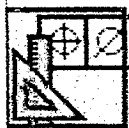
NOTE DIRECT MODEL DIM IS 11.674"



B	DRAWING REVISED TO NEW CUSTOMER CAD DATA, RIVET HOLES ADDED		DB	1402.04
A	NEW RELEASE		DB	1305.22
REV.	DESCRIPTION		BY	DATE
DESIGN	DB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	REV. B SHEET 1 OF 1	
DRAWN	DB			
CHECKED	AP	DRAWING NO. D4821	SCALE NTS	
MFG. APPR.	EPDMA	TITLE WINDSHIELD DEFLECTOR		
APPROVED	HS			
DE APPR.	DS			
DATE	14.02.04		COPYRIGHT © 2013 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR DISCLOSED OR REPRODUCED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



Customer DART Aerospace Customer P.O. PO30111
 Drawing # D4821 Drawing rev B
 Part Number D4821-1P E.C.O. -
 Part Name Windshield deflector Material Alum. 7075-T6 Cust. Supplied
 Serial # 007 Inspected by Cliff Smith
 Job # 37006 Signature:



Overall Result

All Characteristics: 125
 Out of Tolerance: 0
 Over Warning Limit: 0
 Not Calculated: 0

Comment:

Feature	ID	Actual	Nominal	Pos Tol.	Neg Tol.	Deviation	<- >
☒ Flatness_Back Face	GDT Flat	0.0356	0.0000	0.0400		0.0356	—
☒ 1 D2	ResEle	50.3952	50.4000	0.0300	-0.0300	-0.0048	—
☒ 1A C5	Z	-1.5376	-1.5370	0.0300	-0.0300	-0.0006	—
☒ 2 D2	Y	48.7216	48.7300	0.0300	-0.0300	-0.0084	—
☒ 3 D3	Y	46.2259	46.2200	0.0300	-0.0300	0.0059	—
☒ 4 D3	Y	42.2299	42.2300	0.0300	-0.0300	-0.0001	—
☒ 5 D4-1	3d Dist	0.9705	0.9600	0.0300	-0.0300	0.0105	—
☒ 5 D4-2	3d Dist	0.9673	0.9600	0.0300	-0.0300	0.0073	—
☒ 5 D4-3	3d Dist	0.9675	0.9600	0.0300	-0.0300	0.0075	—
☒ 6 D6	Y	15.7284	15.7551	0.0300	-0.0300	-0.0267	—
☒ 7 D6	Y	11.7028	11.7000	0.0300	-0.0300	0.0028	—
☒ 8 D7	Y	8.5357	8.5300	0.0300	-0.0300	0.0057	—
☒ 10 C2	A1	24.4116	25.0000	1.0000	-1.0000	-0.5884	—
☒ 11 B3	CartDist	0.0098	0.0100	0.0100	-0.0100	-0.0002	—
☒ 12 B4	R	0.2781	0.2500	0.03300	-0.0300	0.0281	—
☒ 13 B1	ResEle	0.0391	0.0400	0.0300	-0.0300	-0.0009	—
☒ 14 B2	R	0.2554	0.2500	0.0300	-0.0300	0.0054	—
☒ 15 B8-1	3d Dist	0.1850	0.1870	0.0100	-0.0100	-0.0020	—
☒ 15 B8-2	3d Dist	0.1849	0.1870	0.0100	-0.0100	-0.0021	—
☒ 15 B8-3	3d Dist	0.1851	0.1870	0.0100	-0.0100	-0.0019	—
☒ 16 B6-1	3d Dist	0.1464	0.1480	0.0100	-0.0100	-0.0016	—
☒ 16 B6-2	3d Dist	0.1456	0.1480	0.0100	-0.0100	-0.0024	—
☒ 16 B6-3	3d Dist	0.1463	0.1480	0.0100	-0.0100	-0.0017	—
☒ 16 B6-4	3d Dist	0.1463	0.1480	0.0100	-0.0100	-0.0017	—
☒ 16 B6-5	3d Dist	0.1458	0.1480	0.0100	-0.0100	-0.0022	—
☒ 16 B6-6	3d Dist	0.1465	0.1480	0.0100	-0.0100	-0.0015	—
☒ 16 B6-7	3d Dist	0.1455	0.1480	0.0100	-0.0100	-0.0025	—
☒ 17A B7	X	-1.6786	-1.6700	0.0300	-0.0300	-0.0086	—
☒ 17B B7	X	-1.6715	-1.6700	0.0300	-0.0300	-0.0015	—
☒ 18 B5-1	3d Dist	1.2093	1.2100	0.0300	-0.0300	-0.0007	—
☒ 18 B5-2	3d Dist	1.2095	1.2100	0.0300	-0.0300	-0.0005	—
☒ 18 B5-3	3d Dist	1.2096	1.2100	0.0300	-0.0300	-0.0004	—

Measurement Plan D4821-1P rev.B

Date October 30, 2015 3



Part Number D4821-1P

Serial # 003

Time 4:28:47 pm

Feature		ID	Actual	Nominal	pos Tol	neg Tol	Diff	<- ->
23	D5-19	D	0.2102	0.2060	0.0050	-0.0010	0.0042	—
23	D5-20	D	0.2101	0.2060	0.0050	-0.0010	0.0041	—
23	D5-21	D	0.2102	0.2060	0.0050	-0.0010	0.0042	—
23	D5-22	D	0.2105	0.2060	0.0050	-0.0010	0.0045	—
23	D5-23	D	0.2102	0.2060	0.0050	-0.0010	0.0032	—
24	D1-1	X	-1.3573	-1.3600	0.0300	-0.0300	0.0027	—
24	D1-2	X	-1.3530	-1.3600	0.0300	-0.0300	0.0070	—
24	D1-3	X	-1.3560	-1.3600	0.0300	-0.0300	0.0040	—
24	D1-4	X	-1.3639	-1.3600	0.0300	-0.0300	-0.0039	—
25	D2-1	ResEle	0.7915	0.7900	0.0300	-0.0300	0.0015	—
25	D2-2	ResEle	0.7940	0.7900	0.0300	-0.0300	0.0040	—
25	D2-3	ResEle	0.7953	0.7900	0.0300	-0.0300	0.0053	—
25	D2-4	ResEle	0.7967	0.7900	0.0300	-0.0300	0.0067	—
25	D2-5	ResEle	0.7983	0.7900	0.0300	-0.0300	0.0083	—
25	D2-6	ResEle	0.7976	0.7900	0.0300	-0.0300	0.0076	—
25	D2-7	ResEle	0.7989	0.7900	0.0300	-0.0300	0.0089	—
25	D2-8	ResEle	0.8000	0.7900	0.0300	-0.0300	0.0100	—
25	D2-9	ResEle	0.8007	0.7900	0.0300	-0.0300	0.0107	—
25	D2-10	ResEle	0.8021	0.7900	0.0300	-0.0300	0.0121	—
25	D2-11	ResEle	0.8019	0.7900	0.0300	-0.0300	0.0119	—
25	D2-12	ResEle	0.8019	0.7900	0.0300	-0.0300	0.0119	—
25	D2-13	ResEle	0.8014	0.7900	0.0300	-0.0300	0.0114	—
25	D2-14	ResEle	0.8005	0.7900	0.0300	-0.0300	0.0105	—
25	D2-15	ResEle	0.7993	0.7900	0.0300	-0.0300	0.0093	—
25	D2-16	ResEle	0.7973	0.7900	0.0300	-0.0300	0.0073	—
25	D2-17	ResEle	0.7945	0.7900	0.0300	-0.0300	0.0045	—
25	D2-18	ResEle	0.7918	0.7900	0.0300	-0.0300	0.0018	—
25	D2-19	ResEle	0.7885	0.7900	0.0300	-0.0300	-0.0015	—
26	D6	Y	9.1179	9.1160	0.0100	-0.0100	0.0019	—
27	D6	Y	11.6754	11.6670	0.0100	-0.0100	0.0084	—
28	D6	Y	14.6412	14.6420	0.0100	-0.0100	-0.0008	—
29	D3	Y	46.2543	46.2590	0.0100	-0.0100	-0.0047	—
30	D2	Y	48.4071	48.4110	0.0100	-0.0100	-0.0039	—
31	D5-1	ResEle	1.5960	1.5960	0.0100	-0.0100	0.0000	—
31	D5-2	ResEle	1.5956	1.5960	0.0100	-0.0100	-0.0004	—
31	D5-3	ResEle	1.5957	1.5960	0.0100	-0.0100	-0.0003	—
31	D5-4	ResEle	1.5946	1.5960	0.0100	-0.0100	-0.0014	—
31	D5-5	ResEle	1.5951	1.5960	0.0100	-0.0100	-0.0009	—
31	D5-6	ResEle	1.5953	1.5960	0.0100	-0.0100	-0.0007	—
31	D5-7	ResEle	1.5941	1.5960	0.0100	-0.0100	-0.0019	—
31	D5-8	ResEle	1.5941	1.5960	0.0100	-0.0100	-0.0019	—
31	D5-9	ResEle	1.5940	1.5960	0.0100	-0.0100	-0.0020	—
31	D5-10	ResEle	1.5934	1.5960	0.0100	-0.0100	-0.0026	—
31	D5-11	ResEle	1.5928	1.5960	0.0100	-0.0100	-0.0032	—
31	D5-12	ResEle	1.5919	1.5960	0.0100	-0.0100	-0.0041	—

Measurement Plan	D4821-1P rev.B	Date	October 30, 2015	2				
Part Number	D4821-1P	Serial #	003	Time	4:28:47 pm			

Feature		ID	Actual	Nominal	pos Tol	neg Tol	Diff	<-->
☐ 19A	B6-1	3d Dist	0.1851	0.1870	0.0100	-0.0100	-0.0019	┆
☐ 19A	B6-2	3d Dist	0.1872	0.1870	0.0100	-0.0100	0.0002	┆
☐ 19B	A4-1	3d Dist	0.1892	0.1870	0.0100	-0.0100	0.0022	┆
☐ 19B	A4-2	3d Dist	0.1864	0.1870	0.0100	-0.0100	-0.0006	┆
☐ 19B	A4-3	3d Dist	0.1874	0.1870	0.0100	-0.0100	0.0004	┆
☐ 19B	A4-4	3d Dist	0.1865	0.1870	0.0100	-0.0100	-0.0005	┆
☐ 20	C7A1	R	39.3642	39.4000	0.1000	-0.1000	-0.0358	┆
		Angle	-0.5003					
☐ 20	C7A2	R	39.3680	39.4000	0.1000	-0.1000	-0.0320	┆
		Angle	2.2669					
☐ 20	C7A3	R	39.3716	39.4000	0.1000	-0.1000	-0.0284	┆
		Angle	5.0338					
☐ 20	C7A4	R	39.3748	39.4000	0.1000	-0.1000	-0.0252	┆
		Angle	7.8005					
☐ 21	C4-1	2d Dist	316.2034	316.2000	0.1000	-0.1000	0.0034	┆
☐ 21	C4-2	2d Dist	316.2089	316.2000	0.1000	-0.1000	0.0089	┆
☐ 21	C4-3	2d Dist	316.2126	316.2000	0.1000	-0.1000	0.0126	┆
☐ 21	C4-4	2d Dist	316.2143	316.2000	0.1000	-0.1000	0.0143	┆
☐ 21	C4-5	2d Dist	316.2133	316.2000	0.1000	-0.1000	0.0133	┆
☐ 21	C4-6	2d Dist	316.2141	316.2000	0.1000	-0.1000	0.0141	┆
☐ 21	C4-7	2d Dist	316.2128	316.2000	0.1000	-0.1000	0.0128	┆
☐ 22	C7A1	R	39.3748	39.4000	0.1000	-0.1000	-0.0252	┆
		Angle	-0.4994					
☐ 22	C7A2	R	39.3717	39.4000	0.1000	-0.1000	-0.0283	┆
		Angle	2.0004					
☐ 22	C7A3	R	39.3684	39.4000	0.1000	-0.1000	-0.0316	┆
		Angle	4.5005					
☐ 22	C7A4	R	39.3642	39.4000	0.1000	-0.1000	-0.0358	┆
		Angle	7.0004					
☐ 23	D5-1	D	0.2098	0.2060	0.0050	-0.0010	0.0038	┆
☐ 23	D5-2	D	0.2098	0.2060	0.0050	-0.0010	0.0038	┆
☐ 23	D5-3	D	0.2101	0.2060	0.0050	-0.0010	0.0041	┆
☐ 23	D5-4	D	0.2101	0.2060	0.0050	-0.0010	0.0040	┆
☐ 23	D5-5	D	0.2101	0.2060	0.0050	-0.0010	0.0041	┆
☐ 23	D5-6	D	0.2100	0.2060	0.0050	-0.0010	0.0040	┆
☐ 23	D5-7	D	0.2100	0.2060	0.0050	-0.0010	0.0040	┆
☐ 23	D5-8	D	0.2101	0.2060	0.0050	-0.0010	0.0041	┆
☐ 23	D5-9	D	0.2101	0.2060	0.0050	-0.0010	0.0041	┆
☐ 23	D5-10	D	0.2101	0.2060	0.0050	-0.0010	0.0040	┆
☐ 23	D5-11	D	0.2101	0.2060	0.0050	-0.0010	0.0041	┆
☐ 23	D5-12	D	0.2101	0.2060	0.0050	-0.0010	0.0041	┆
☐ 23	D5-13	D	0.2100	0.2060	0.0050	-0.0010	0.0040	┆
☐ 23	D5-14	D	0.2101	0.2060	0.0050	-0.0010	0.0041	┆
☐ 23	D5-15	D	0.2101	0.2060	0.0050	-0.0010	0.0041	┆
☐ 23	D5-16	D	0.2101	0.2060	0.0050	-0.0010	0.0040	┆
☐ 23	D5-17	D	0.2102	0.2060	0.0050	-0.0010	0.0042	┆
☐ 23	D5-18	D	0.2101	0.2060	0.0050	-0.0010	0.0041	┆

Measurement Plan D4821-1P rev.B

Date October 30, 2015 4



Part Number D4821-1P

Serial # 003

Time 4:28:47 pm

Feature		ID	Actual	Nominal	pos Tol	neg Tol	Diff	<- ->
■ 31	D5-13	ResEle	1.5916	1.5960	0.0100	-0.0100	-0.0044	-
■ 31	D5-14	ResEle	1.5910	1.5960	0.0100	-0.0100	-0.0050	-
■ 31	D5-15	ResEle	1.5902	1.5960	0.0100	-0.0100	-0.0058	-
■ 31	D5-16	ResEle	1.5897	1.5960	0.0100	-0.0100	-0.0063	-
■ 31	D5-17	ResEle	1.5889	1.5960	0.0100	-0.0100	-0.0071	-
■ 31	D5-18	ResEle	1.5886	1.5960	0.0100	-0.0100	-0.0074	-
■ 32A	D6	A	169.9679	170.0000	1.0000	-1.0000	-0.0321	-
■ 33	D8-1	R	0.3938	0.3900	0.0300	-0.0300	0.0038	-
■ 33	D8-2	R	0.3935	0.3900	0.0300	-0.0300	0.0035	-
■ 34	D2	R	0.7872	0.7900	0.0300	-0.0300	-0.0028	-



Customer DART Aerospace Customer P.O. PO30111
 Drawing # D4821 Drawing rev B
 Part Number D4821-1P E.C.O. -
 Part Name Windshield deflector Material Alum. 7075-T6 Cust. Supplied
 Serial # 00 Inspected by Cliff Smith
 Job # 37606 Signature:



ACCEPTED



Overall Result

All Characteristics: 125
 Out of Tolerance: 0
 Over Warning Limit: 0
 Not Calculated: 0

Comment:

Feature	ID	Actual	Nominal	Pos Tol.	Neg Tol.	Deviation	<- >
☐ Flatness_Back Face	GDT Flat	0.0347	0.0000	0.0400		0.0347	—
☐ 1 D2	ResEle	50.3938	50.4000	0.0300	-0.0300	-0.0062	+
☐ 1A C5	Z	-1.5374	-1.5370	0.0300	-0.0300	-0.0004	+
☐ 2 D2	Y	48.7207	48.7300	0.0300	-0.0300	-0.0093	+
☐ 3 D3	Y	46.2247	46.2200	0.0300	-0.0300	0.0047	+
☐ 4 D3	Y	42.2295	42.2300	0.0300	-0.0300	-0.0005	+
☐ 5 D4-1	3d Dist	0.9706	0.9600	0.0300	-0.0300	0.0106	+
☐ 5 D4-2	3d Dist	0.9673	0.9600	0.0300	-0.0300	0.0073	+
☐ 5 D4-3	3d Dist	0.9658	0.9600	0.0300	-0.0300	0.0058	+
☐ 6 D6	Y	15.7285	15.7551	0.0300	-0.0300	-0.0266	—
☐ 7 D6	Y	11.7022	11.7000	0.0300	-0.0300	0.0022	+
☐ 8 D7	Y	8.5350	8.5300	0.0300	-0.0300	0.0050	+
☐ 10 C2	A1	24.3845	25.0000	1.0000	-1.0000	-0.6155	—
☐ 11 B3	CartDist	0.0162	0.0100	0.0100	-0.0100	0.0062	+
☐ 12 B4	R	0.2750	0.2500	0.0300	-0.0300	0.0250	—
☐ 13 B1	ResEle	0.0390	0.0400	0.0300	-0.0300	-0.0010	+
☐ 14 B2	R	0.2564	0.2500	0.0300	-0.0300	0.0064	+
☐ 15 B8-1	3d Dist	0.1849	0.1870	0.0100	-0.0100	-0.0021	+
☐ 15 B8-2	3d Dist	0.1848	0.1870	0.0100	-0.0100	-0.0022	+
☐ 15 B8-3	3d Dist	0.1852	0.1870	0.0100	-0.0100	-0.0018	+
☐ 16 B6-1	3d Dist	0.1456	0.1480	0.0100	-0.0100	-0.0024	+
☐ 16 B6-2	3d Dist	0.1453	0.1480	0.0100	-0.0100	-0.0027	+
☐ 16 B6-3	3d Dist	0.1463	0.1480	0.0100	-0.0100	-0.0017	+
☐ 16 B6-4	3d Dist	0.1463	0.1480	0.0100	-0.0100	-0.0017	+
☐ 16 B6-5	3d Dist	0.1458	0.1480	0.0100	-0.0100	-0.0022	+
☐ 16 B6-6	3d Dist	0.1465	0.1480	0.0100	-0.0100	-0.0015	+
☐ 16 B6-7	3d Dist	0.1454	0.1480	0.0100	-0.0100	-0.0026	+
☐ 17A B7	X	-1.6761	-1.6700	0.0300	-0.0300	-0.0061	+
☐ 17B B7	X	-1.6712	-1.6700	0.0300	-0.0300	-0.0012	+
☐ 18 B5-1	3d Dist	1.2091	1.2100	0.0300	-0.0300	-0.0009	+
☐ 18 B5-2	3d Dist	1.2094	1.2100	0.0300	-0.0300	-0.0006	+
☐ 18 B5-3	3d Dist	1.2095	1.2100	0.0300	-0.0300	-0.0005	+

Measurement Plan D4821-1P rev.B

Date October 30, 2015 2



Part Number D4821-1P

Serial # 001

Time 3:19:14 pm

Feature		ID	Actual	Nominal	pos Tol	neg Tol	Diff	<- ->
☐ 19A	B6-1	3d Dist	0.1848	0.1870	0.0100	-0.0100	-0.0022	-
☐ 19A	B6-2	3d Dist	0.1873	0.1870	0.0100	-0.0100	0.0003	-
☐ 19B	A4-1	3d Dist	0.1889	0.1870	0.0100	-0.0100	0.0019	-
☐ 19B	A4-2	3d Dist	0.1861	0.1870	0.0100	-0.0100	-0.0009	-
☐ 19B	A4-3	3d Dist	0.1858	0.1870	0.0100	-0.0100	-0.0012	-
☐ 19B	A4-4	3d Dist	0.1865	0.1870	0.0100	-0.0100	-0.0005	-
☐ 20	C7^1	R	39.3645	39.4000	0.1000	-0.1000	-0.0355	-
		Angle	-0.5006					
☐ 20	C7^2	R	39.3680	39.4000	0.1000	-0.1000	-0.0320	-
		Angle	2.2670					
☐ 20	C7^3	R	39.3714	39.4000	0.1000	-0.1000	-0.0286	-
		Angle	5.0339					
☐ 20	C7^4	R	39.3742	39.4000	0.1000	-0.1000	-0.0258	-
		Angle	7.8003					
☐ 21	C4-1	2d Dist	316.2024	316.2000	0.1000	-0.1000	0.0024	-
☐ 21	C4-2	2d Dist	316.2068	316.2000	0.1000	-0.1000	0.0068	-
☐ 21	C4-3	2d Dist	316.2107	316.2000	0.1000	-0.1000	0.0107	-
☐ 21	C4-4	2d Dist	316.2133	316.2000	0.1000	-0.1000	0.0133	-
☐ 21	C4-5	2d Dist	316.2140	316.2000	0.1000	-0.1000	0.0140	-
☐ 21	C4-6	2d Dist	316.2132	316.2000	0.1000	-0.1000	0.0132	-
☐ 21	C4-7	2d Dist	316.2113	316.2000	0.1000	-0.1000	0.0113	-
☐ 22	C7^1	R	39.3742	39.4000	0.1000	-0.1000	-0.0258	-
		Angle	-0.4994					
☐ 22	C7^2	R	39.3710	39.4000	0.1000	-0.1000	-0.0290	-
		Angle	2.1669					
☐ 22	C7^3	R	39.3674	39.4000	0.1000	-0.1000	-0.0326	-
		Angle	4.8338					
☐ 22	C7^4	R	39.3756	39.4000	0.1000	-0.1000	-0.0244	-
		Angle	7.4992					
☐ 32A	D6	A	169.9847	170.0000	1.0000	-1.0000	-0.0153	-
☐ 33A	D8	R	0.3935	0.3900	0.0300	-0.0300	0.0035	-
☐ 23	D5-1	D	0.2098	0.2060	0.0050	-0.0010	0.0038	-
☐ 23	D5-2	D	0.2096	0.2060	0.0050	-0.0010	0.0036	-
☐ 23	D5-3	D	0.2099	0.2060	0.0050	-0.0010	0.0039	-
☐ 23	D5-4	D	0.2099	0.2060	0.0050	-0.0010	0.0039	-
☐ 23	D5-5	D	0.2100	0.2060	0.0050	-0.0010	0.0040	-
☐ 23	D5-6	D	0.2098	0.2060	0.0050	-0.0010	0.0038	-
☐ 23	D5-7	D	0.2084	0.2060	0.0050	-0.0010	0.0024	-
☐ 23	D5-8	D	0.2099	0.2060	0.0050	-0.0010	0.0039	-
☐ 23	D5-9	D	0.2097	0.2060	0.0050	-0.0010	0.0037	-
☐ 23	D5-10	D	0.2096	0.2060	0.0050	-0.0010	0.0036	-
☐ 23	D5-11	D	0.2094	0.2060	0.0050	-0.0010	0.0034	-
☐ 23	D5-12	D	0.2093	0.2060	0.0050	-0.0010	0.0033	-
☐ 23	D5-13	D	0.2095	0.2060	0.0050	-0.0010	0.0035	-
☐ 23	D5-14	D	0.2101	0.2060	0.0050	-0.0010	0.0041	-
☐ 23	D5-15	D	0.2102	0.2060	0.0050	-0.0010	0.0042	-
☐ 23	D5-16	D	0.2101	0.2060	0.0050	-0.0010	0.0040	-

Measurement Plan D4821-1P rev.B

Date October 30, 2015 4



Part Number D4821-1P

Serial # 001

Time 3:19:14 pm

Feature		ID	Actual	Nominal	pos Tol	neg Tol	Diff	<- ->
■ 31	D5-11	ResEle	1.5924	1.5960	0.0100	-0.0100	-0.0036	-
■ 31	D5-12	ResEle	1.5926	1.5960	0.0100	-0.0100	-0.0034	-
■ 31	D5-13	ResEle	1.5915	1.5960	0.0100	-0.0100	-0.0045	-
■ 31	D5-14	ResEle	1.5924	1.5960	0.0100	-0.0100	-0.0036	-
■ 31	D5-15	ResEle	1.5894	1.5960	0.0100	-0.0100	-0.0066	-
■ 31	D5-16	ResEle	1.5898	1.5960	0.0100	-0.0100	-0.0062	-
■ 31	D5-17	ResEle	1.5882	1.5960	0.0100	-0.0100	-0.0078	-
■ 31	D5-18	ResEle	1.5886	1.5960	0.0100	-0.0100	-0.0074	-

Work Order ID 137832

October 08, 2015 12:51:45 PM

137832

Page 1

Item ID: D4821-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Windshield Deflector

Stop

NS2

Start Date: 10/8/2015 Start Qty: 2.00

Required Date: 10/30/2015 Req'd Qty: 2.00

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan: SW

Date: 20151008

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D4821

B

100

Cut blanks as per folio

0.00

100

Bandsaw

Memo

0.00

Jeaspa Bandsaw

CUT BLANK AT 51.000"

110

HAAS CNC VERTICAL MACHINING #1

0.00

110

Outsource5

Memo

0.00

Outsource process - Machining

ISSUE P/O: 30111
TO WEEJAY
C OF C IS REQUIRED

CL OCT 14 2015

2- deburr and break all sharp edges

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 137832***137832***

Page 2

October 08, 2015 12:51:45 PM

Item ID: D4821-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Windshield Deflector

Start Date: 10/8/2015 Start Qty: 2.00

2

Cust Item ID:

Required Date: 10/30/2015 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start ***NR1***

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

Receive & Inspect for Damage & Mat'l Certs

0.00

120

Packaging

Memo

0.00

Packaging

6x SP15-11-02

130

QC5- Inspect part completeness to step on W/O

0.00

130

QC

Memo

0.00

Quality Control

⑥

DAS
38
9-89

NOV 03 2015

131

131

HandFinish

Hand Finishing

Memo

CLEAN AND REMOVE ALL PART MARKING

VIA
DAS
38
05089

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Work Order ID 137832***137832***

Page 3

October 08, 2015 12:51:45 PM

Item ID: D4821-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Windshield Deflector

Start Date: 10/8/2015 Start Qty: 2.00

2

Cust Item ID:

Required Date: 10/30/2015 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Outsource process-Anodize per QSI017 4.1.10.1	0.00							
140									
Outsource4	Memo	0.00							
Outsource process - Anodize	Issue P/O: _____ Black Anodize as per Dwg D4821 pRIME AS PER DWG AS PER NOTE 2								
150	Receive & Inspect for Damage & Mat'l Certs	0.00							
150									
Packaging	Memo	0.00							
Packaging									
152	QC14- Inspect Spray Paint	0.00							
152									
QC	Memo	0.00							
Quality Control									

SEE W/O
138600

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
				Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
				Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
				Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
				Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
				Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
				Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
				Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
				OTHER : ☐			

Work Order ID 137832***137832***

Page 4

October 08, 2015 12:51:45 PM

Item ID: D4821-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Windshield Deflector

Stop ***NS2***

Start Date: 10/8/2015 Start Qty: 2.00

2

Cust Item ID:

Required Date: 10/30/2015 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

155

QC5- Inspect part completeness to step on W/O

0.00

155

QC

Memo

0.00

Quality Control

180

Identify as per dwg & Stock Location: CC1024 0.00***180***

Packaging

Memo

0.00

Packaging

6 15-11-04

190

QC21- Final Inspection - Work Order Release 0.00

190

QC

Memo

0.00

Quality Control

15-11-04

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

Picklist Print

October 08, 2015 12:51:50 PM

Page 1

Work Order ID: 137832

137832

Parent Item: D4821-1

D4821-1

Parent Item Name: Windshield Deflector

Start Date: 10/8/2015

Required Date: 10/30/2015

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV: A NEW ISSUE 13/04/25 JFS VERIFY BY: JLM

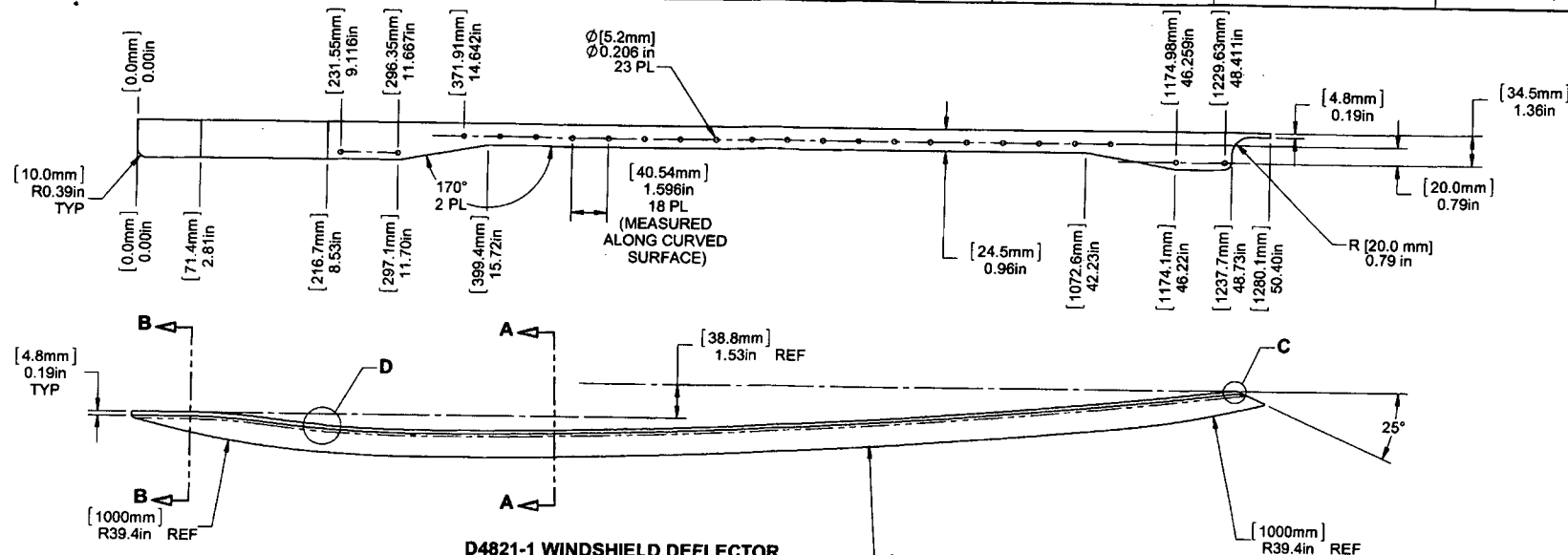
Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4821-1P		Purchased	No				Each	0.0000					
D4821-1P									**				
Windshield Deflector													
M7075T6B3.500X02.00		Purchased	No			100	f	18.7580	4.25	8.947368			
0													

M7075T6B3 500X02 000

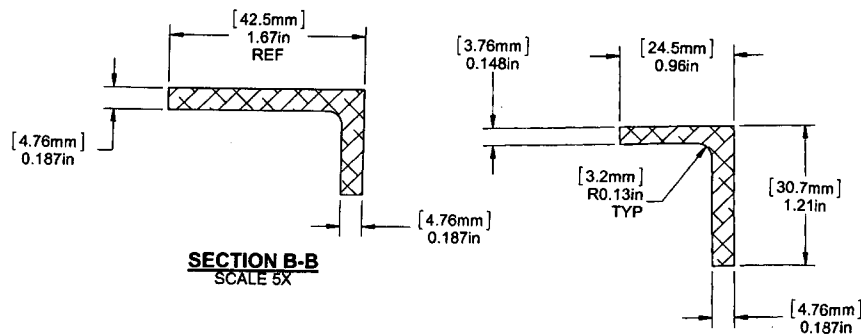
7075-T6 BAR 3.500" X 2.000" (Cut into 51" pieces)

Location	Loc Qty	Loc Code
MAT001	7	
M133296	7	
MAT006	11.758	
M123555	3.9	
M125623	0.941	
M127736	6.917	

m 133392 = 266+

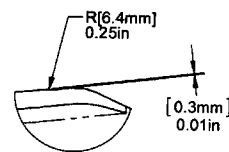


D4821-1 WINDSHIELD DEFLECTOR

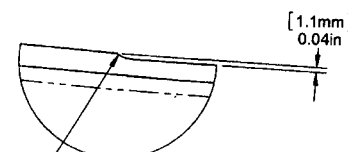


SECTION B-B
SCALE 5X

SECTION A-A
SCALE 5X



DETAIL C
SCALE 5X



DETAIL D
SCALE 5X

- NOTES:**
- 1) MATERIAL: 7075-T6 (OR T651/T6510/T6511/T62) ALUMINUM BAR
PER AMS-QQ-A-225/9 (OR AMS 4122/4123/4186/4187) OR
PER AMS-QQ-A-200/11 (REF DART SPEC. M7075T6B)
 - 2) FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK,
PRIME IAW MIL-P-23377J TYPE I CLASS N; 1-2 MIL MAX, AS PER QSI 005.
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4821-1", AGUSTA WESTLAND P/N "TBD", REVISION, BATCH NUMBER AND DATE OF MANUFACTURE,
USING AN X-TENSION STAMP, PER QSI 044 METHOD 6.2
 - 7) WEIGHT: 1.93 lbs (0.88 kgs)
 - 8) PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: D4821-1-b.IGES (or D4821-1-b.STEP)

RELEASED

2014 FEB 25

20151008

137832

B	DRAWING REVISED TO NEW CUSTOMER CAD DATA, RIVET HOLES ADDED	DB	14.02.04
A	NEW RELEASE	DB	13.05.22
REV.	DESCRIPTION	BY	DATE
DESIGN	DB		
DRAWN	DB		
CHECKED	AP		
MFG. APPR.	EPDMA		
APPROVED	HS		
DE APPR.	DS		
DATE	14.02.04		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D4821	REV. B SHEET 1 OF 1
TITLE WINDSHIELD DEFLECTOR	SCALE NTS

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NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT
WRITTEN PERMISSION FROM DART AEROSPACE LTD



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO30111**

Purchase Order Date 10/14/2015

PO Print Date 10/14/2015

Page Number 1 of 2

Order From :

VC-WMP001

WEJAY MACHINE PRODUCTS CO. LTD
600 O'CONNOR DRIVE
KINGSTON, ONTARIO K7P 1N3
CANADA

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 613-384-1662

Ship To Contact

Ship To Phone

Ship Via: Journey Freight collect

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
----------	---	------------------------	--------------------------------------	----	--------------------------------	---------------	-------------------

1	D4821-1P	Windshield Deflector	11/24/2015 Yes 11/24/2015		6.00 Each	\$870.00	\$5,220.00
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AS PER DWG D4821 REV. B
B137359

MAT: 7075-T6 BAR 3.5" X 2" M133296 X 6 PCS

Line Total: \$5,220.00

2	D4821-1P	Windshield Deflector	11/24/2015 Yes 11/24/2015		6.00 Each	\$870.00	\$5,220.00
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AS PER DWG D4821 REV. B
B137832

MAT: 7075-T6 BAR 3.5" X 2" TO BE DELIVER AT A LATER DATE

Line Total: \$5,220.00

PO Instructions: QUOTATION NO. WJ-8644

Note:

10/14/2015



Packing Slip 37606

600 O'CONNOR DRIVE, KINGSTON, ONTARIO K7P 1N3
TEL: 613-384-1662 FAX: 613-384-2997
www.wejay.com

S
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Dart Aerospace
1270 Aberdeen Street
Hawkesbury ON K6A 1K7

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Dart Aerospace
1270 Aberdeen Street
Hawkesbury ON K6A 1K7

INVOICE DATE		YOUR ORDER NO. 30111		DATE ORDERED 10/14/15		SHIPPED VIA Best way	
CUSTOMER CODE DART		PROV. LIC. NO.		Extra ☐ Exempt ☐		TERMS	
QUANTITY ORDERED	B.O.	QUANTITY SHIPPED	DESCRIPTION			UNIT PRICE	AMOUNT
0		6	Windshield deflector as per drawing D4821, Rev. B Ref: D4821-1P Tag: B137359 Material: 7075-T6 bar 3.5" x 2" M133296 x 6 pcs				
0		6	Windshield deflector as per drawing D4821, Rev. B Ref: D4821-1P Tag: B137832 Material: 7075-T6 bar 3.5" x 2" M133296 (to be delivered at a later date)				
RELEASE NOTE I certify that the items listed hereon have been inspected and tested and conform to all specifications and requirements in the contract or purchase order. Required by: November 24, 2015 Inspection Supervisor <i>[Signature]</i> WMP 03 Nov. 2/15							
						G.S.T.	
						P.S.T.	

ORDER: COMPLETE ☐
PARTIAL ☐

TOTAL

RECEIVED BY _____
1.5% PER MONTH (18% PER ANNUM)
CHARGED ON OVERDUE ACCOUNTS

NO GOODS RETURNED WITHOUT
PRIOR AUTHORIZATION



600 O'CONNOR DRIVE, KINGSTON, ONTARIO K7P 1N3

PHONE: (613) 384-1662

FAX: (613) 384-2997

CERTIFICATE OF COMPLIANCE

CUSTOMER: Dart Aerospace		DATE: Nov. 2, 2015	
		P.O.# PO30111	
		WEJAY JOB# 37606	
I hereby certify that the following material has been inspected/tested and conforms to the requirements and specifications as stated in your contract and as noted below.			
PART NO.	QTY.	PROCESS (ES)	SPECIFICATION / REV
D4821-1P 'Windshield Deflector' Tag: B137359	6	Machined complete per drawing req'ts.	D-4821 / rev. B
D4821-1P 'Windshield Deflector' Tag: B137832	6	Machined complete per drawing req'ts.	D-4821 / rev. B
Note: 1) Material: 7075-T6 Aluminum bar supplied by DART - ref. tag: M133296 2) 1st article Inspection reports attached			SP15-11-03

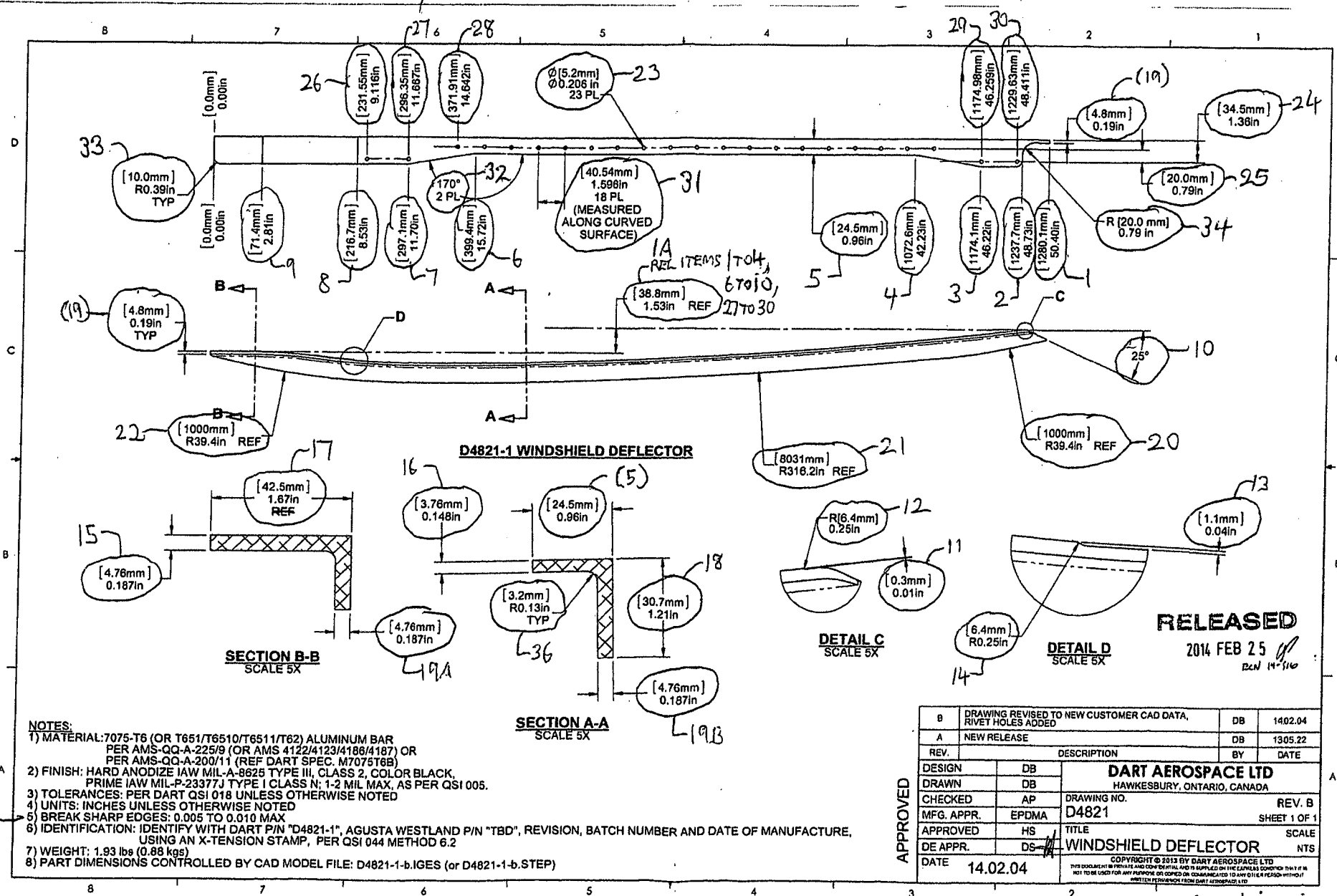
Records of Inspection/Test will be retained for 5 years minimum.

Yours truly,

Clifford Smith

Authorized Q.A. Signatory

NOTE ELEC. MODEL DIM IS 11.674"



Customer DART Aerospace Customer P.O. PO30111

Drawing # D4821 Drawing rev B

Part Number D4821-1P E.C.O. -

Part Name Windshield deflector Material Alum. 7075-T6 Cust. Supplied

Serial # 001 Inspected by Cliff Smith

Job # 37606 Signature:



Overall Result

All Characteristics: 125
 Out of tolerance: 0
 Over Warning Limit: 0
 Not Calculated: 0

Comment:

Feature	ID	Actual	Nominal	Pos Tol.	Neg Tol.	Deviation	<- >
☐ Flatness_Back Face	GDT Flat	0.0347	0.0000	0.0400		0.0347	—
☐ 1 D2	ResEle	50.3938	50.4000	0.0300	-0.0300	-0.0062	—
☐ 1A C5	Z	-1.5374	-1.5370	0.0300	-0.0300	-0.0004	—
☐ 2 D2	Y	48.7207	48.7300	0.0300	-0.0300	-0.0093	—
☐ 3 D3	Y	46.2247	46.2200	0.0300	-0.0300	0.0047	—
☐ 4 D3	Y	42.2295	42.2300	0.0300	-0.0300	-0.0005	—
☐ 5 D4-1	3d Dist	0.9706	0.9600	0.0300	-0.0300	0.0106	—
☐ 5 D4-2	3d Dist	0.9673	0.9600	0.0300	-0.0300	0.0073	—
☐ 5 D4-3	3d Dist	0.9658	0.9600	0.0300	-0.0300	0.0058	—
☐ 6 D6	Y	15.7285	15.7551	0.0300	-0.0300	-0.0266	—
☐ 7 D6	Y	11.7022	11.7000	0.0300	-0.0300	0.0022	—
☐ 8 D7	Y	8.5350	8.5300	0.0300	-0.0300	0.0050	—
☐ 10 C2	A1	24.3845	25.0000	1.0000	-1.0000	-0.6155	—
☐ 11 B3	CartDist	0.0162	0.0100	0.0100	-0.0100	0.0062	—
☐ 12 B4	R	0.2750	0.2500	0.0300	-0.0300	0.0250	—
☐ 13 B1	ResEle	0.0390	0.0400	0.0300	-0.0300	-0.0010	—
☐ 14 B2	R	0.2564	0.2500	0.0300	-0.0300	0.0064	—
☐ 15 B8-1	3d Dist	0.1849	0.1870	0.0100	-0.0100	-0.0021	—
☐ 15 B8-2	3d Dist	0.1848	0.1870	0.0100	-0.0100	-0.0022	—
☐ 15 B8-3	3d Dist	0.1852	0.1870	0.0100	-0.0100	-0.0018	—
☐ 16 B6-1	3d Dist	0.1456	0.1480	0.0100	-0.0100	-0.0024	—
☐ 16 B6-2	3d Dist	0.1453	0.1480	0.0100	-0.0100	-0.0027	—
☐ 16 B6-3	3d Dist	0.1463	0.1480	0.0100	-0.0100	-0.0017	—
☐ 16 B6-4	3d Dist	0.1463	0.1480	0.0100	-0.0100	-0.0017	—
☐ 16 B6-5	3d Dist	0.1458	0.1480	0.0100	-0.0100	-0.0022	—
☐ 16 B6-6	3d Dist	0.1465	0.1480	0.0100	-0.0100	-0.0015	—
☐ 16 B6-7	3d Dist	0.1454	0.1480	0.0100	-0.0100	-0.0026	—
☐ 17A B7	X	-1.6761	-1.6700	0.0300	-0.0300	-0.0061	—
☐ 17B B7	X	-1.6712	-1.6700	0.0300	-0.0300	-0.0012	—
☐ 18 B5-1	3d Dist	1.2091	1.2100	0.0300	-0.0300	-0.0009	—
☐ 18 B5-2	3d Dist	1.2094	1.2100	0.0300	-0.0300	-0.0006	—
☐ 18 B5-3	3d Dist	1.2095	1.2100	0.0300	-0.0300	-0.0005	—



Feature	ID	Actual	Nominal	pos Tol	neg Tol	Diff	<- ->
☐ 19A B6-1	3d Dist	0.1848	0.1870	0.0100	-0.0100	-0.0022	-
☐ 19A B6-2	3d Dist	0.1873	0.1870	0.0100	-0.0100	0.0003	-
☐ 19B A4-1	3d Dist	0.1889	0.1870	0.0100	-0.0100	0.0019	-
☐ 19B A4-2	3d Dist	0.1861	0.1870	0.0100	-0.0100	-0.0009	-
☐ 19B A4-3	3d Dist	0.1858	0.1870	0.0100	-0.0100	-0.0012	-
☐ 19B A4-4	3d Dist	0.1865	0.1870	0.0100	-0.0100	-0.0005	-
☐ 20 C7^1	R	39.3645	39.4000	0.1000	-0.1000	-0.0355	-
	Angle	-0.5006					
☐ 20 C7^2	R	39.3680	39.4000	0.1000	-0.1000	-0.0320	-
	Angle	2.2670					
☐ 20 C7^3	R	39.3714	39.4000	0.1000	-0.1000	-0.0286	-
	Angle	5.0339					
☐ 20 C7^4	R	39.3742	39.4000	0.1000	-0.1000	-0.0258	-
	Angle	7.8003					
☐ 21 C4-1	2d Dist	316.2024	316.2000	0.1000	-0.1000	0.0024	-
☐ 21 C4-2	2d Dist	316.2068	316.2000	0.1000	-0.1000	0.0068	-
☐ 21 C4-3	2d Dist	316.2107	316.2000	0.1000	-0.1000	0.0107	-
☐ 21 C4-4	2d Dist	316.2133	316.2000	0.1000	-0.1000	0.0133	-
☐ 21 C4-5	2d Dist	316.2140	316.2000	0.1000	-0.1000	0.0140	-
☐ 21 C4-6	2d Dist	316.2132	316.2000	0.1000	-0.1000	0.0132	-
☐ 21 C4-7	2d Dist	316.2113	316.2000	0.1000	-0.1000	0.0113	-
☐ 22 C7^1	R	39.3742	39.4000	0.1000	-0.1000	-0.0258	-
	Angle	-0.4994					
☐ 22 C7^2	R	39.3710	39.4000	0.1000	-0.1000	-0.0290	-
	Angle	2.1669					
☐ 22 C7^3	R	39.3674	39.4000	0.1000	-0.1000	-0.0326	-
	Angle	4.8338					
☐ 22 C7^4	R	39.3756	39.4000	0.1000	-0.1000	-0.0244	-
	Angle	7.4992					
☐ 32A D6	A	169.9847	170.0000	1.0000	-1.0000	-0.0153	-
☐ 33A D8	R	0.3935	0.3900	0.0300	-0.0300	0.0035	-
☐ 23 D5-1	D	0.2098	0.2060	0.0050	-0.0010	0.0038	-
☐ 23 D5-2	D	0.2096	0.2060	0.0050	-0.0010	0.0036	-
☐ 23 D5-3	D	0.2099	0.2060	0.0050	-0.0010	0.0039	-
☐ 23 D5-4	D	0.2099	0.2060	0.0050	-0.0010	0.0039	-
☐ 23 D5-5	D	0.2100	0.2060	0.0050	-0.0010	0.0040	-
☐ 23 D5-6	D	0.2098	0.2060	0.0050	-0.0010	0.0038	-
☐ 23 D5-7	D	0.2084	0.2060	0.0050	-0.0010	0.0024	-
☐ 23 D5-8	D	0.2099	0.2060	0.0050	-0.0010	0.0039	-
☐ 23 D5-9	D	0.2097	0.2060	0.0050	-0.0010	0.0037	-
☐ 23 D5-10	D	0.2096	0.2060	0.0050	-0.0010	0.0036	-
☐ 23 D5-11	D	0.2094	0.2060	0.0050	-0.0010	0.0034	-
☐ 23 D5-12	D	0.2093	0.2060	0.0050	-0.0010	0.0033	-
☐ 23 D5-13	D	0.2095	0.2060	0.0050	-0.0010	0.0035	-
☐ 23 D5-14	D	0.2101	0.2060	0.0050	-0.0010	0.0041	-
☐ 23 D5-15	D	0.2102	0.2060	0.0050	-0.0010	0.0042	-
☐ 23 D5-16	D	0.2101	0.2060	0.0050	-0.0010	0.0040	-



Feature	ID	Actual	Nominal	pos Tol	neg Tol	Diff	<- ->
☐ 23 D5-17	D	0.2097	0.2060	0.0050	-0.0010	0.0037	—
☐ 23 D5-18	D	0.2095	0.2060	0.0050	-0.0010	0.0035	—
☐ 23 D5-19	D	0.2099	0.2060	0.0050	-0.0010	0.0039	—
☐ 23 D5-20	D	0.2097	0.2060	0.0050	-0.0010	0.0037	—
☐ 23 D5-21	D	0.2097	0.2060	0.0050	-0.0010	0.0037	—
☐ 23 D5-22	D	0.2098	0.2060	0.0050	-0.0010	0.0038	—
☐ 23 D5-23	D	0.2107	0.2060	0.0050	-0.0010	0.0047	—
☐ 24 D1-1	X	-1.3564	-1.3600	0.0300	-0.0300	0.0036	—
☐ 24 D1-2	X	-1.3526	-1.3600	0.0300	-0.0300	0.0074	—
☐ 24 D1-3	X	-1.3543	-1.3600	0.0300	-0.0300	0.0057	—
☐ 24 D1-4	X	-1.3629	-1.3600	0.0300	-0.0300	-0.0029	—
☐ 25 D2-1	ResEle	0.7918	0.7900	0.0300	-0.0300	0.0018	—
☐ 25 D2-2	ResEle	0.7940	0.7900	0.0300	-0.0300	0.0040	—
☐ 25 D2-3	ResEle	0.7960	0.7900	0.0300	-0.0300	0.0060	—
☐ 25 D2-4	ResEle	0.7977	0.7900	0.0300	-0.0300	0.0077	—
☐ 25 D2-5	ResEle	0.8087	0.7900	0.0300	-0.0300	0.0187	—
☐ 25 D2-6	ResEle	0.7998	0.7900	0.0300	-0.0300	0.0098	—
☐ 25 D2-7	ResEle	0.8006	0.7900	0.0300	-0.0300	0.0106	—
☐ 25 D2-8	ResEle	0.8012	0.7900	0.0300	-0.0300	0.0112	—
☐ 25 D2-9	ResEle	0.8017	0.7900	0.0300	-0.0300	0.0117	—
☐ 25 D2-10	ResEle	0.8080	0.7900	0.0300	-0.0300	0.0180	—
☐ 25 D2-11	ResEle	0.8027	0.7900	0.0300	-0.0300	0.0127	—
☐ 25 D2-12	ResEle	0.8027	0.7900	0.0300	-0.0300	0.0127	—
☐ 25 D2-13	ResEle	0.8021	0.7900	0.0300	-0.0300	0.0121	—
☐ 25 D2-14	ResEle	0.8006	0.7900	0.0300	-0.0300	0.0106	—
☐ 25 D2-15	ResEle	0.7997	0.7900	0.0300	-0.0300	0.0097	—
☐ 25 D2-16	ResEle	0.7946	0.7900	0.0300	-0.0300	0.0046	—
☐ 25 D2-17	ResEle	0.7938	0.7900	0.0300	-0.0300	0.0038	—
☐ 25 D2-18	ResEle	0.7911	0.7900	0.0300	-0.0300	0.0011	—
☐ 25 D2-19	ResEle	0.7887	0.7900	0.0300	-0.0300	-0.0013	—
☐ 26 D6	Y	9.1163	9.1160	0.0100	-0.0100	0.0003	—
☐ 27 D6	Y	11.6738	11.6670	0.0100	-0.0100	0.0068	—
☐ 28 D6	Y	14.6395	14.6420	0.0100	-0.0100	-0.0025	—
☐ 29 D3	Y	46.2525	46.2590	0.0100	-0.0100	-0.0065	—
☐ 30 D2	Y	48.4047	48.4110	0.0100	-0.0100	-0.0063	—
☐ 31 D5-1	ResEle	1.5959	1.5960	0.0100	-0.0100	-0.0001	—
☐ 31 D5-2	ResEle	1.5954	1.5960	0.0100	-0.0100	-0.0006	—
☐ 31 D5-3	ResEle	1.5956	1.5960	0.0100	-0.0100	-0.0004	—
☐ 31 D5-4	ResEle	1.5883	1.5960	0.0100	-0.0100	-0.0077	—
☐ 31 D5-5	ResEle	1.6023	1.5960	0.0100	-0.0100	0.0063	—
☐ 31 D5-6	ResEle	1.5951	1.5960	0.0100	-0.0100	-0.0009	—
☐ 31 D5-7	ResEle	1.5945	1.5960	0.0100	-0.0100	-0.0015	—
☐ 31 D5-8	ResEle	1.5930	1.5960	0.0100	-0.0100	-0.0030	—
☐ 31 D5-9	ResEle	1.5924	1.5960	0.0100	-0.0100	-0.0036	—
☐ 31 D5-10	ResEle	1.5958	1.5960	0.0100	-0.0100	-0.0002	—

Measurement Plan D4821-1P rev.B

Date October 30, 2015 4

Part Number D4821-1P

Serial # 001

Time 3:19:14 pm



Feature		ID	Actual	Nominal	pos Tol	neg Tol	Diff	<-- -->
■ 31	D5-11	ResEle	1.5924	1.5960	0.0100	-0.0100	-0.0036	—
■ 31	D5-12	ResEle	1.5926	1.5960	0.0100	-0.0100	-0.0034	—
■ 31	D5-13	ResEle	1.5915	1.5960	0.0100	-0.0100	-0.0045	—
■ 31	D5-14	ResEle	1.5924	1.5960	0.0100	-0.0100	-0.0036	—
■ 31	D5-15	ResEle	1.5894	1.5960	0.0100	-0.0100	-0.0066	—
■ 31	D5-16	ResEle	1.5898	1.5960	0.0100	-0.0100	-0.0062	—
■ 31	D5-17	ResEle	1.5882	1.5960	0.0100	-0.0100	-0.0078	—
■ 31	D5-18	ResEle	1.5886	1.5960	0.0100	-0.0100	-0.0074	—



Customer DART Aerospace Customer P.O. PO30111
 Drawing # D4821 Drawing rev B
 Part Number D4821-1P E.C.O. -
 Part Name Windshield deflector Material Alum. 7075-T6 Cust. Supplied
 Serial # 007 Inspected by Cliff Smith
 Job # 37606 Signature:



Overall Result

All Characteristics: 125
 Out of tolerance: 0
 Over Warning Limit: 0
 Not Calculated: 0

Comment:

Feature	ID	Actual	Nominal	Pos Tol.	Neg Tol.	Deviation	<- ->
☐ Flatness_Back Face	GDT Flat	0.0356	0.0000	0.0400		0.0356	—
☐ 1 D2	ResEle	50.3952	50.4000	0.0300	-0.0300	-0.0048	—
☐ 1A C5	Z	-1.5376	-1.5370	0.0300	-0.0300	-0.0006	—
☐ 2 D2	Y	48.7216	48.7300	0.0300	-0.0300	-0.0084	—
☐ 3 D3	Y	46.2259	46.2200	0.0300	-0.0300	0.0059	—
☐ 4 D3	Y	42.2299	42.2300	0.0300	-0.0300	-0.0001	—
☐ 5 D4-1	3d Dist	0.9705	0.9600	0.0300	-0.0300	0.0105	—
☐ 5 D4-2	3d Dist	0.9673	0.9600	0.0300	-0.0300	0.0073	—
☐ 5 D4-3	3d Dist	0.9675	0.9600	0.0300	-0.0300	0.0075	—
☐ 6 D6	Y	15.7284	15.7551	0.0300	-0.0300	-0.0267	—
☐ 7 D6	Y	11.7028	11.7000	0.0300	-0.0300	0.0028	—
☐ 8 D7	Y	8.5357	8.5300	0.0300	-0.0300	0.0057	—
☐ 10 C2	A1	24.4116	25.0000	1.0000	-1.0000	-0.5884	—
☐ 11 B3	CartDist	0.0098	0.0100	0.0100	-0.0100	-0.0002	—
☐ 12 B4	R	0.2781	0.2500	0.03300	-0.0300	0.0281	—
☐ 13 B1	ResEle	0.0391	0.0400	0.0300	-0.0300	-0.0009	—
☐ 14 B2	R	0.2554	0.2500	0.0300	-0.0300	0.0054	—
☐ 15 B8-1	3d Dist	0.1850	0.1870	0.0100	-0.0100	-0.0020	—
☐ 15 B8-2	3d Dist	0.1849	0.1870	0.0100	-0.0100	-0.0021	—
☐ 15 B8-3	3d Dist	0.1851	0.1870	0.0100	-0.0100	-0.0019	—
☐ 16 B6-1	3d Dist	0.1464	0.1480	0.0100	-0.0100	-0.0016	—
☐ 16 B6-2	3d Dist	0.1456	0.1480	0.0100	-0.0100	-0.0024	—
☐ 16 B6-3	3d Dist	0.1463	0.1480	0.0100	-0.0100	-0.0017	—
☐ 16 B6-4	3d Dist	0.1463	0.1480	0.0100	-0.0100	-0.0017	—
☐ 16 B6-5	3d Dist	0.1458	0.1480	0.0100	-0.0100	-0.0022	—
☐ 16 B6-6	3d Dist	0.1465	0.1480	0.0100	-0.0100	-0.0015	—
☐ 16 B6-7	3d Dist	0.1455	0.1480	0.0100	-0.0100	-0.0025	—
☐ 17A B7	X	-1.6786	-1.6700	0.0300	-0.0300	-0.0086	—
☐ 17B B7	X	-1.6715	-1.6700	0.0300	-0.0300	-0.0015	—
☐ 18 B5-1	3d Dist	1.2093	1.2100	0.0300	-0.0300	-0.0007	—
☐ 18 B5-2	3d Dist	1.2095	1.2100	0.0300	-0.0300	-0.0005	—
☐ 18 B5-3	3d Dist	1.2096	1.2100	0.0300	-0.0300	-0.0004	—



Feature	ID	Actual	Nominal	pos Tol	neg Tol	Diff	<- >
☐ 23 D5-19	D	0.2102	0.2060	0.0050	-0.0010	0.0042	—
☐ 23 D5-20	D	0.2101	0.2060	0.0050	-0.0010	0.0041	—
☐ 23 D5-21	D	0.2102	0.2060	0.0050	-0.0010	0.0042	—
☐ 23 D5-22	D	0.2105	0.2060	0.0050	-0.0010	0.0045	—
☐ 23 D5-23	D	0.2102	0.2060	0.0050	-0.0010	0.0032	—
☐ 24 D1-1	X	-1.3573	-1.3600	0.0300	-0.0300	0.0027	—
☐ 24 D1-2	X	-1.3530	-1.3600	0.0300	-0.0300	0.0070	—
☐ 24 D1-3	X	-1.3560	-1.3600	0.0300	-0.0300	0.0040	—
☐ 24 D1-4	X	-1.3639	-1.3600	0.0300	-0.0300	-0.0039	—
☐ 25 D2-1	ResEle	0.7915	0.7900	0.0300	-0.0300	0.0015	—
☐ 25 D2-2	ResEle	0.7940	0.7900	0.0300	-0.0300	0.0040	—
☐ 25 D2-3	ResEle	0.7953	0.7900	0.0300	-0.0300	0.0053	—
☐ 25 D2-4	ResEle	0.7967	0.7900	0.0300	-0.0300	0.0067	—
☐ 25 D2-5	ResEle	0.7983	0.7900	0.0300	-0.0300	0.0083	—
☐ 25 D2-6	ResEle	0.7976	0.7900	0.0300	-0.0300	0.0076	—
☐ 25 D2-7	ResEle	0.7989	0.7900	0.0300	-0.0300	0.0089	—
☐ 25 D2-8	ResEle	0.8000	0.7900	0.0300	-0.0300	0.0100	—
☐ 25 D2-9	ResEle	0.8007	0.7900	0.0300	-0.0300	0.0107	—
☐ 25 D2-10	ResEle	0.8021	0.7900	0.0300	-0.0300	0.0121	—
☐ 25 D2-11	ResEle	0.8019	0.7900	0.0300	-0.0300	0.0119	—
☐ 25 D2-12	ResEle	0.8019	0.7900	0.0300	-0.0300	0.0119	—
☐ 25 D2-13	ResEle	0.8014	0.7900	0.0300	-0.0300	0.0114	—
☐ 25 D2-14	ResEle	0.8005	0.7900	0.0300	-0.0300	0.0105	—
☐ 25 D2-15	ResEle	0.7993	0.7900	0.0300	-0.0300	0.0093	—
☐ 25 D2-16	ResEle	0.7973	0.7900	0.0300	-0.0300	0.0073	—
☐ 25 D2-17	ResEle	0.7945	0.7900	0.0300	-0.0300	0.0045	—
☐ 25 D2-18	ResEle	0.7918	0.7900	0.0300	-0.0300	0.0018	—
☐ 25 D2-19	ResEle	0.7885	0.7900	0.0300	-0.0300	-0.0015	—
☐ 26 D6	Y	9.1179	9.1160	0.0100	-0.0100	0.0019	—
☐ 27 D6	Y	11.6754	11.6670	0.0100	-0.0100	0.0084	—
☐ 28 D6	Y	14.6412	14.6420	0.0100	-0.0100	-0.0008	—
☐ 29 D3	Y	46.2543	46.2590	0.0100	-0.0100	-0.0047	—
☐ 30 D2	Y	48.4071	48.4110	0.0100	-0.0100	-0.0039	—
☐ 31 D5-1	ResEle	1.5960	1.5960	0.0100	-0.0100	0.0000	—
☐ 31 D5-2	ResEle	1.5956	1.5960	0.0100	-0.0100	-0.0004	—
☐ 31 D5-3	ResEle	1.5957	1.5960	0.0100	-0.0100	-0.0003	—
☐ 31 D5-4	ResEle	1.5946	1.5960	0.0100	-0.0100	-0.0014	—
☐ 31 D5-5	ResEle	1.5951	1.5960	0.0100	-0.0100	-0.0009	—
☐ 31 D5-6	ResEle	1.5953	1.5960	0.0100	-0.0100	-0.0007	—
☐ 31 D5-7	ResEle	1.5941	1.5960	0.0100	-0.0100	-0.0019	—
☐ 31 D5-8	ResEle	1.5941	1.5960	0.0100	-0.0100	-0.0019	—
☐ 31 D5-9	ResEle	1.5940	1.5960	0.0100	-0.0100	-0.0020	—
☐ 31 D5-10	ResEle	1.5934	1.5960	0.0100	-0.0100	-0.0026	—
☐ 31 D5-11	ResEle	1.5928	1.5960	0.0100	-0.0100	-0.0032	—
☐ 31 D5-12	ResEle	1.5919	1.5960	0.0100	-0.0100	-0.0041	—



Feature	ID	Actual	Nominal	pos Tol	neg Tol	Diff	<-->
☐ 19A B6-1	3d Dist	0.1851	0.1870	0.0100	-0.0100	-0.0019	-
☐ 19A B6-2	3d Dist	0.1872	0.1870	0.0100	-0.0100	0.0002	-
☐ 19B A4-1	3d Dist	0.1892	0.1870	0.0100	-0.0100	0.0022	-
☐ 19B A4-2	3d Dist	0.1864	0.1870	0.0100	-0.0100	-0.0006	-
☐ 19B A4-3	3d Dist	0.1874	0.1870	0.0100	-0.0100	0.0004	-
☐ 19B A4-4	3d Dist	0.1865	0.1870	0.0100	-0.0100	-0.0005	-
☐ 20 C7^1	R	39.3642	39.4000	0.1000	-0.1000	-0.0358	-
	Angle	-0.5003					
☐ 20 C7^2	R	39.3680	39.4000	0.1000	-0.1000	-0.0320	-
	Angle	2.2669					
☐ 20 C7^3	R	39.3716	39.4000	0.1000	-0.1000	-0.0284	-
	Angle	5.0338					
☐ 20 C7^4	R	39.3748	39.4000	0.1000	-0.1000	-0.0252	-
	Angle	7.8005					
☐ 21 C4-1	2d Dist	316.2034	316.2000	0.1000	-0.1000	0.0034	-
☐ 21 C4-2	2d Dist	316.2089	316.2000	0.1000	-0.1000	0.0089	-
☐ 21 C4-3	2d Dist	316.2126	316.2000	0.1000	-0.1000	0.0126	-
☐ 21 C4-4	2d Dist	316.2143	316.2000	0.1000	-0.1000	0.0143	-
☐ 21 C4-5	2d Dist	316.2133	316.2000	0.1000	-0.1000	0.0133	-
☐ 21 C4-6	2d Dist	316.2141	316.2000	0.1000	-0.1000	0.0141	-
☐ 21 C4-7	2d Dist	316.2128	316.2000	0.1000	-0.1000	0.0128	-
☐ 22 C7^1	R	39.3748	39.4000	0.1000	-0.1000	-0.0252	-
	Angle	-0.4994					
☐ 22 C7^2	R	39.3717	39.4000	0.1000	-0.1000	-0.0283	-
	Angle	2.0004					
☐ 22 C7^3	R	39.3684	39.4000	0.1000	-0.1000	-0.0316	-
	Angle	4.5005					
☐ 22 C7^4	R	39.3642	39.4000	0.1000	-0.1000	-0.0358	-
	Angle	7.0004					
☐ 23 D5-1	D	0.2098	0.2060	0.0050	-0.0010	0.0038	-
☐ 23 D5-2	D	0.2098	0.2060	0.0050	-0.0010	0.0038	-
☐ 23 D5-3	D	0.2101	0.2060	0.0050	-0.0010	0.0041	-
☐ 23 D5-4	D	0.2101	0.2060	0.0050	-0.0010	0.0040	-
☐ 23 D5-5	D	0.2101	0.2060	0.0050	-0.0010	0.0041	-
☐ 23 D5-6	D	0.2100	0.2060	0.0050	-0.0010	0.0040	-
☐ 23 D5-7	D	0.2100	0.2060	0.0050	-0.0010	0.0040	-
☐ 23 D5-8	D	0.2101	0.2060	0.0050	-0.0010	0.0041	-
☐ 23 D5-9	D	0.2101	0.2060	0.0050	-0.0010	0.0041	-
☐ 23 D5-10	D	0.2101	0.2060	0.0050	-0.0010	0.0040	-
☐ 23 D5-11	D	0.2101	0.2060	0.0050	-0.0010	0.0041	-
☐ 23 D5-12	D	0.2101	0.2060	0.0050	-0.0010	0.0041	-
☐ 23 D5-13	D	0.2100	0.2060	0.0050	-0.0010	0.0040	-
☐ 23 D5-14	D	0.2101	0.2060	0.0050	-0.0010	0.0041	-
☐ 23 D5-15	D	0.2101	0.2060	0.0050	-0.0010	0.0041	-
☐ 23 D5-16	D	0.2101	0.2060	0.0050	-0.0010	0.0040	-
☐ 23 D5-17	D	0.2102	0.2060	0.0050	-0.0010	0.0042	-
☐ 23 D5-18	D	0.2101	0.2060	0.0050	-0.0010	0.0041	-

Measurement Plan D4821-1P rev.B

Date October 30, 2015 4

Part Number D4821-1P

Serial # 003

Time 4:28:47 pm



Feature		ID	Actual	Nominal	pos Tol	neg Tol	Diff	<- ->
■ 31	D5-13	ResEle	1.5916	1.5960	0.0100	-0.0100	-0.0044	-
■ 31	D5-14	ResEle	1.5910	1.5960	0.0100	-0.0100	-0.0050	-
■ 31	D5-15	ResEle	1.5902	1.5960	0.0100	-0.0100	-0.0058	-
■ 31	D5-16	ResEle	1.5897	1.5960	0.0100	-0.0100	-0.0063	-
■ 31	D5-17	ResEle	1.5889	1.5960	0.0100	-0.0100	-0.0071	-
■ 31	D5-18	ResEle	1.5886	1.5960	0.0100	-0.0100	-0.0074	-
■ 32A	D6	A	169.9679	170.0000	1.0000	-1.0000	-0.0321	-
■ 33	D8-1	R	0.3938	0.3900	0.0300	-0.0300	0.0038	-
■ 33	D8-2	R	0.3935	0.3900	0.0300	-0.0300	0.0035	-
■ 34	D2	R	0.7872	0.7900	0.0300	-0.0300	-0.0028	-



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO30385

Purchase Order Date 11/6/2015

PO Print Date 11/10/2015

Page Number 1 of 7

Order From :

VC-ATG001

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAXED

Contact Name

Vendor Phone 613-446-4544

Ship To Contact

Ship To Phone

Ship Via:

VENDOR'S TRUCK

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
	Line Comments		Promise Date				
	Delivery Comments						

1	138554	D4410-5 FACE PLACE REV.E	11/18/2015		4.00	\$31.25	\$125.00
			Yes				
			11/18/2015				
		FINISH: BLACK ANODIZE PER MIL-A-8625F TYPE I / IB / IC / II / IIB CLASS 2					

Line Total: \$125.00

2	138600	D4821-1 WINDSHIELD DEFLECTOR REV.	11/11/2015		12.00	\$50.25	\$603.00
			Yes				
			11/11/2015				

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE I CLASS N

****RUSH ORDER****

Line Total: \$603.00

Note:

11/10/2015



A.T.G. Industries Inc.
731, rue Industrielle Rd.
PLATING DEPARTMENT
Rockland, On K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 63995

Date: 11-Nov-15

To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ship To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms	Ship Via				
<table border="1"><thead><tr><th>Quantity</th><th>Description</th></tr></thead><tbody><tr><td>12 ea</td><td>Part: D4821-1 WINDSHIELD DEFLECTOR HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2 PRIME MIL-P-23377J TYPE I CLASS N PAINT IS SUPPLY BY CUSTOMER Job: 20150827 PO: PO30385</td></tr></tbody></table>		Quantity	Description	12 ea	Part: D4821-1 WINDSHIELD DEFLECTOR HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2 PRIME MIL-P-23377J TYPE I CLASS N PAINT IS SUPPLY BY CUSTOMER Job: 20150827 PO: PO30385
Quantity	Description				
12 ea	Part: D4821-1 WINDSHIELD DEFLECTOR HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2 PRIME MIL-P-23377J TYPE I CLASS N PAINT IS SUPPLY BY CUSTOMER Job: 20150827 PO: PO30385				
Certificate of Conformance A.T.G. Industries certifies that all items in this shipment are in conformance with all requirements, specifications and drawings referenced in the purchase order. ISO 9001 : 2008 REGISTERED ATG SALES-2010 TERMS APPLY DATE: <u>11/11/15</u> CERTIFIED SIGNATURE: <u></u> RECEIVER SIGNATURE: _____					

Rev: B

Line: SP15-11-11